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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,190	01/18/2001	Yat-Tung Lam	MP0042CIP	6456
23624	7590	07/27/2004	EXAMINER	
MARVELL SEMICONDUCTOR, INC. INTELLECTUAL PROPERTY DEPARTMENT 700 FIRST AVENUE, MS# 509 SUNNYVALE, CA 94089			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/761,190	<b>Applicant(s)</b> LAM ET AL.	
	<b>Examiner</b> Tan V Mai	<b>Art Unit</b> 2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/2/02, 7/5/02 & 19 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-61, 61 (second occurrence) & 62-68 is/are pending in the application.
- 4a) Of the above claim(s) 9-25, 34-50, 56-60, 63, 64, 67 and 68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 26-33, 51-55, 61, 61 (second occurrence), 62 and 65-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/6/02</u> | 6) <input type="checkbox"/> Other: _____  |

1. Applicant's election without traverse of Specie I, Claims 1-8, 26-33, 51-55, 61, 61 (second occurrence), 62 and 65-66 in Paper No. filed 04-19-04 is acknowledged.
2. The abstract of the disclosure is objected to because legal phraseology is used in this paragraph (i.e., "comprising"). Also, the Abstract contains the undefined acronym "FIR". All such acronyms should be defined at the instance of their first use within the
3. Claims 6-8 and 61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 6, the phrase "controller to synchronize said coefficient generator with each of said N memories" seems to be misdescriptive. It is noted that coefficient generator ((50) is coupled to the memories (80i) via a "shared wiring". Therefore, the controller (55) only "activates" **a memory** at certain time. The memories (80i) are stored the coefficients [generated by coefficient generator (50)] in serial fashion. Clarification is requested. Similarly noted claim 61.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-3, 5-8, 26-28, 30-33, 51-53, 55, 61, 61 (second occurrence), 62 and 65-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Morrow or Sumi et al in view of Shanks.

As per independent claim 1, Morrow (e.g., see Fig. 2) and Sumi et al (e.g., see Fig. 11) disclose FIR filters having a plurality of delay taps / multipliers / coefficients and adder(s) for providing the desired filtered outputs. It is noted that Morrow and Sumi et al do NOT disclose the claimed storing coefficients via "shared wiring" (claim 1, lines 2-8) feature; however, the feature is old and well known in the art. For example, Shanks, e.g., see Fig. 1, shows a filter having the claimed feature. Shanks elements (34), (30), (37) and (26) are considered applicants' LMS 50, controller 55, "shared wiring, and memories 80i. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Shanks feature in either Morrow or Sumi et al, thereby making the claimed invention, because the proposed device is a FIR filter having "shared wiring" for storing the desired coefficients as claimed.

As per dependent claims 2-3, Morrow and Sumi et al do show the claimed features.

Due to the similarity of claims 5-8, 26-28, 30-33, 51-53, 55, 61, 61 (second occurrence), 62 and 65-66 to claims 1-3, they are rejected under a similar rationale. It is noted that the "proposed device could be use in the **Ethernet transceiver**" as recited in the preambles of independent claims 61 (second occurrence), 62 and 65-66.

6. Claims 4, 29 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Morrow or Sumi et al in view of Shanks as applied to claims 2, 27 and 52 above, and further in view of Lish.

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As per dependent claim 4, the claim adds "wherein the first time delay is different than the second time delay". Lish discloses, e.g., see Figs. 4A-4B FIR filter having "switching matrix". Therefore, the effective delays between the input and other delayed input(s) are different. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Lish's "variable delay" feature in either Morrow or Sumi et al in view of Shanks, thereby making the claimed invention, because the proposed device is a FIR filter having "shared wiring" and "variable delay" for storing the desired coefficients as claimed.

Due to the similarity of claims 29 and 54 to claim 4, they are rejected under a similar rationale.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

Official (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI  
PRIMARY EXAMINER

BEST AVAILABLE COPY